## CONTENTS OF ANIMAL REPRODUCTION SCIENCE, VOLUME 19

VOL. 19 NOS. 1-2	MAY 1989
Genetic studies on fertility in A.I. bulls. I. Age, season and genetic effects on se characteristics in young bulls	men
EM. Stålhammar, L. Janson and J. Philipsson (Uppsala, Sweden)	1
Repeatability of scrotal size and semen quality measurements in rams in a shortegime	rt-day light
G.A. Langford, J.N.B. Shrestha and G.J. Marcus (Ottawa, Ont., Canada) The effects of frequency of ejaculation and undernutrition on the size and tone ram's testes	
C.J. Thwaites and G.D. Hannan (Armidale, N.S.W., Australia)  Embryonic development in superovulated dairy cattle exposed to elevated amb temperatures between the onset of estrus and insemination	
D.J. Putney (Gainesville, FL, U.S.A.), S. Mullins (Belfield, Ireland), W.W. M. Drost and T.S. Gross (Gainesville, FL, U.S.A.)	37
Alterations in gonadotrophin secretion and ovarian sensitivity to gonadotroph by active immunization against androstenedione	
P. Philipon, A.L. Prieur and M.A. Driancourt (Nouzilly, France)	
The effects of nutritionally-induced liveweight differences on follicular develop ovulation rate, oestrous activity and plasma follicle-stimulating hormone le ewe	vels in the
Z.Z. Xu, M.F. McDonald and S.N. McCutcheon (Palmerston North, New 2	ealand) 6
Resumption of ovarian activity in post-partum ewes: role of the uterus A. Schirar, C. Meusnier, J. Paly, M.C. Levasseur and J. Martinet (Jouy-en	
France)  Resumption of ovarian activity in post-partum ewes: carry-over effect of the coluteum of pregnancy	
A. Schirar and M.C. Levasseur (Jouy-en-Josas, France)	9:
Effects of breed and time since lambing on spring estrous activity in mature ev V. Dzabirski (Skopje, Yugoslavia) and D.R. Notter (Blacksburg, VA, U.S.	ves
Plasma FSH levels and ovarian response to PMSG in ewe lambs of related gen differ in their prolificacy	
E. Gootwine, A. Bor and R. Braw-Tal (Bet Dagan, Israel)	
Some significant steps in the cryopreservation of mammalian embryos with a vitrification procedure	
A. Massip (Louvain-la-Neuve, Belgium), P. van der Zwalmen, B. Scheffen Ectors (Brussels, Belgium)	
Effect of mid-luteal glucocorticoid injection with pulsatile administration of gonadotrophin releasing hormone on follicular growth and ovulation in the	sow
R.M. Liptrap, E. Cummings and P. Huether (Guelph, Ont., Canada)	
Plasma progesterone and LH concentrations during oestrous synchronization fallow deer (Dama dama)	
G.W. Asher and J.G.E. Thompson (Hamilton, New Zealand)	14
Guide for Authors	15

size and serum profiles of testosterone and oestradiol	
N. Ahmad, M. Shahab, S. Khurshid and M. Arslan (Islamabad, Pakistan)	161
Ovarian follicular populations in buffaloes and cows	101
Le Van Ty, D. Chupin and M.A. Driancourt (Monnaie, France)	. 171
Effects of human chorionic gonadotropin pretreatment on endocrine, cytological and	
prostaglandin F <sub>3a</sub> receptor patterns of the bovine corpus luteum	
W.A. Bennett, L.V. Gonzalez, M.J. Stuart and J.W. Fuquay (Mississippi State, MS,	
U.S.A.)	179
Reproductive performance of Zebu cattle under traditional agropastoral management in northern Nigeria	
A.A. Voh, Jr. and E.O. Otchere (Zaria, Nigeria)	191
Application of plasma and milk progesterone assay in pregnancy diagnosis in White Fulani (Zebu) cattle	
O. Adeyemo (Ibadan, Nigeria)	205
Return to cyclic ovarian activity following parturition in mature cows and first-calf beef heifers exposed to bulls	
D.R. Gifford (Rosedale, S.A., Australia), M.J. D'Occhio, P.H. Sharpe, T. Weatherly	
(Glen Osmond, S.A., Australia), R.Y. Pittar and D.V. Reeve (Rosedale, S.A.,	
Australia)	209
Determining sex of the bovine fetus by ultrasonic assessment of the relative location of the genital tubercle	
S. Curran, J.P. Kastelic and O.J. Ginther (Madison, WI, U.S.A.)	217
Effect of transportation stress on ovarian activities and reproductive performance of ewes during the anoestrous period	
M.H. Fahmy and L.A. Guilbault (Lennoxville, Que., Canada)	229
Reproductive performances of Creole and Black-Belly ewes in the West Indies. A new major gene controlling ovulation rate?	
M. Mahieu, Y. Jego (Martinique, French West Indies), M.A. Driancourt and P.	
Chemineau (Nouzilly, France)	235
Attempts to improve the function of GnRH-induced corpora lutea in early post-partum ewes through oestradiol and/or PMSG priming or exogenous luteotrophin	
J. Grobbelaar, A.W. Lishman, W.A. Botha (Pietermaritzburg, South Africa), D.L. Els (Glen, South Africa), B.P. Louw and A. van Niekerk (Pietermaritzburg, South	
Africa)	245
Effects of continuous ram exposure and early spring lambing on initiation of the breeding season by yearling crossbred ewes	
D.R. Notter (Blacksburg, VA, U.S.A.)	265
Serum progesterone and luteinizing hormone following prostagland in ${\bf F}_{2\alpha}$ during the sow's estrous cycle	
K.A. Berghorn, L.A. Edgerton, G.L. Cromwell and T.S. Stahly (Lexington, KY, U.S.A.)	273
Relationships between protein intake during lactation, LH levels and oestrous activity in first-litter sows	
R.H. King (Werribee, Vic., Australia) and G.B. Martin (Nedlands, W.A. and	
Wembley, W.A., Australia)	283
Seasonal variation in the semen characters of Soviet Angora rabbit bucks	
A K Mathur R S Srivestava P S Rewet and D R Keles (Avikanager India)	201

Routine grouping of parturitions when using a new synthetic analogue of prostaglandin $F_{2\alpha}$ (Etiproston) administered in rabbits on day 29 of pregnancy	
E. Ubilla and J.M. Rodriguez (Madrid, Spain)	299
Author Index	309
Subject Index.	312
Contents of Animal Reproduction Science, Volume 19	317